End of June statistics

Description

While June 2020 overall was not a record-breaking month, it has been notable for many, with some heavy rainfall at times. And, despite cooler days in the inclement weather, there was a notable heatwave and there have been some warmer than average nights.

Early in June there was a gradual breakdown of the high-pressure system which was responsible for bringing us the sunniest spring and the driest May since records began.

The breakdown allowed a return to Atlantic weather systems, bringing unsettled weather across the UK. Low pressure prevailed for much of the month, with spells of heavy rain and showers for many, triggering Met Office rain and thunderstorm warnings at times. However a spell of hot weather saw temperatures reach 33.4 at Heathrow on 25th.

Rainfall

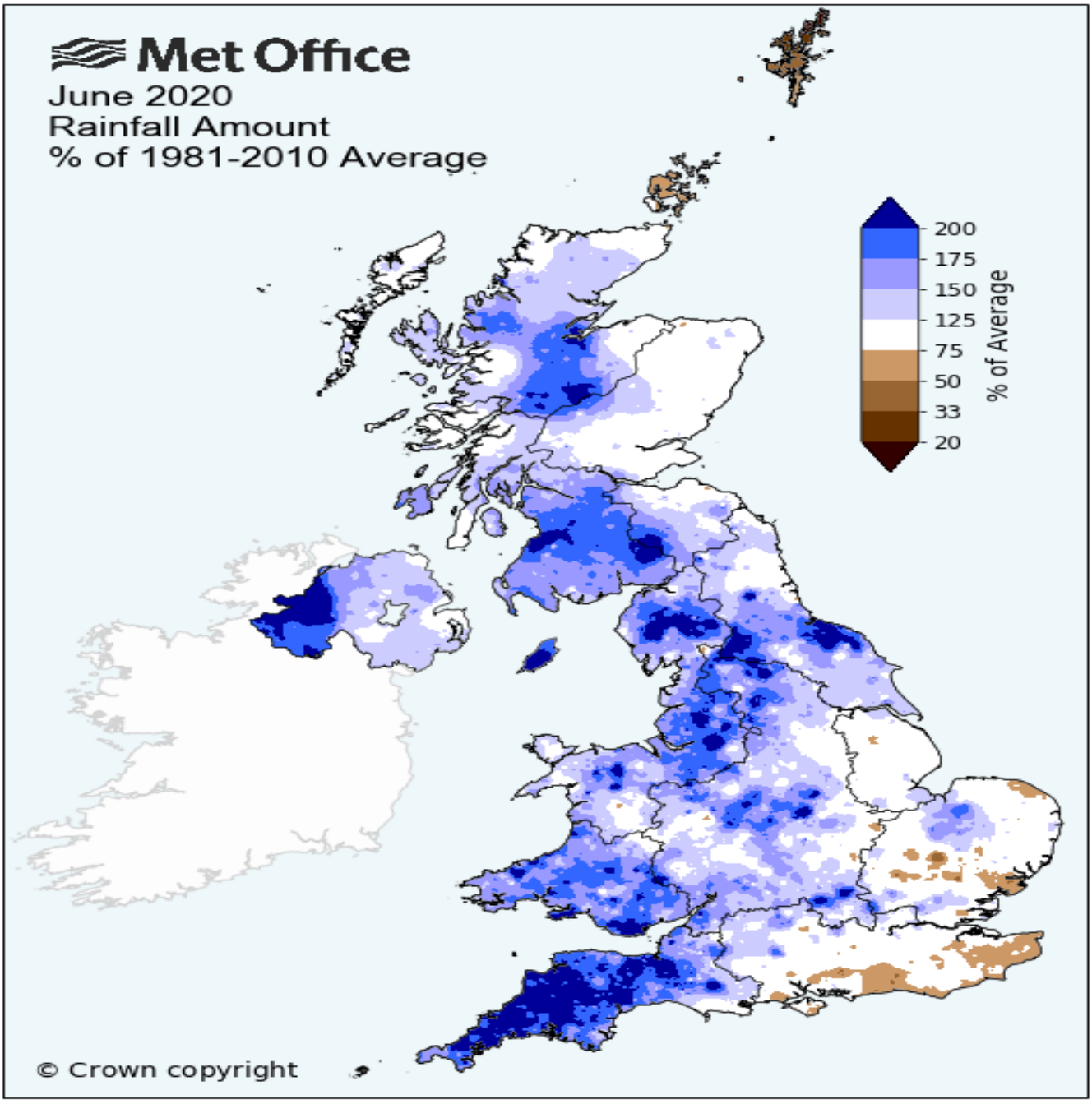
The June rainfall was above average across most of the UK with especially large accumulations in the South West and South Wales.

	Rainfall	
Provisional June figures	**Actual rainfall**	**% of the June average**
UK	105.7 mm	144.0
England	88.4 mm	143.0
Wales	137.0 mm	160.0
Scotland	122.5 mm	139.0
Northern Ireland	124.3 mm	163.0

Based on the 1981 to 2010 long-term average

Cornwall recorded 143.3mm, over twice the county's average monthly rainfall – making it the fifth wettest June on record for the county, South Glamorgan recorded 144.8mm – again around twice the expected monthly rainfall – making it the 7th wettest on record, while Devon has seen its 8th wettest June with 142.1mm recorded, also around twice the expected monthly rainfall (data back to 1862).

Although Cumbria as a whole recorded 151mm of rainfall, its 13th wettest June on record, Honister Pass Environment Agency rain gauge recorded 212.8mm of rainfall on 28th June (24-hour total) breaking the wettest June day on record*. It was also the wettest day of 2020 so far. Sutton Bonington (Notts) also had their wettest June day in nearly 100 years, with 46.2mm falling on the 17th.


Met Office
June 2020
Rainfall Amount
% of 1981-2010 Average
200
175
150
125
75
50
33
20
% of Average
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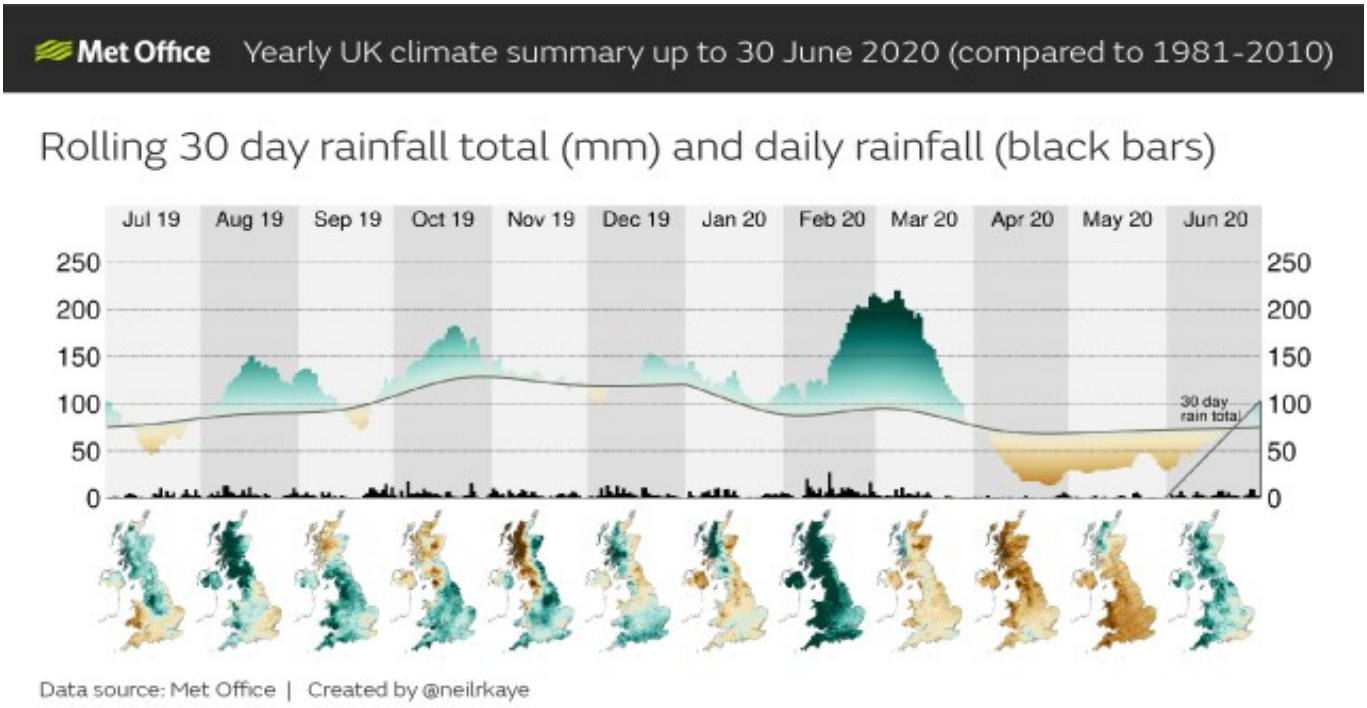


Temperature

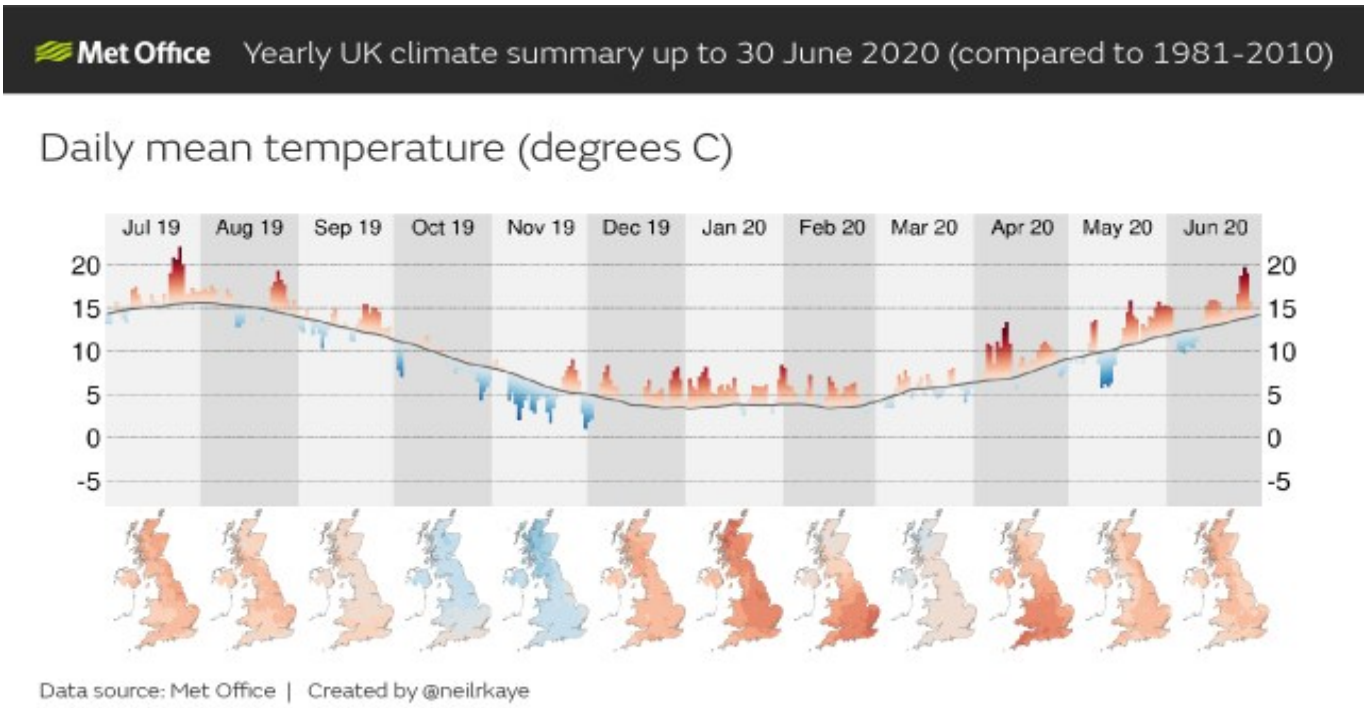
Daytime maximum and mean temperatures have been above average for June for much of the UK, but not record breaking. Heatwave conditions were briefly reached in parts of the country in the week ofthe 19th June , while there were also some warm nights with Gosport, Hampshire and Hastings, East Sussex, not seeing temperatures drop below 20.0°C on the night of 25th June making it a 'tropical night'. This term describes days when the temperature does not fall under 20.0° C during the night-time. The Met Office began tracking 'tropical nights' in 2018. This criterion is infrequently met and usually quite localised.

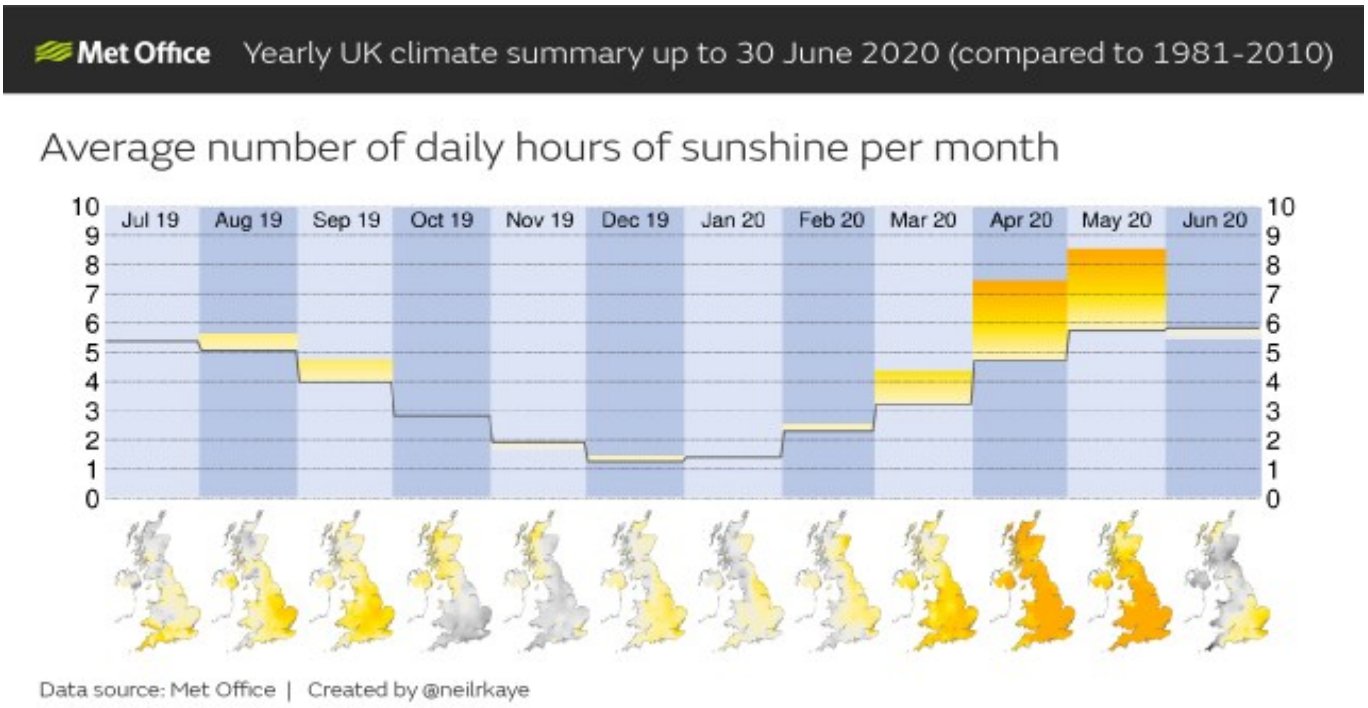
	Maximum temperature		**Minimum temperature**	
Provisional June figures	**Actual °C**	**Difference from June average °C**	**Actual °C**	**Difference from June average °C**
UK	18.3	1.0	9.8	1.0
England	19.5	0.9	10.4	0.9
Wales	18.1	0.8	10.1	1.0
Scotland	16.4	1.2	8.8	1.3
Northern Ireland	17.4	0.6	9.6	0.8

Based on the 1981 to 2010 long-term average

You can get the most accurate and up to date forecast for your area using our forecast pages and by following us on Twitter and Facebook, as well as using our mobile app which is available for iPhone from the App store and for Android from the Google Play store. You can check the latest weather warnings on our severe weather warnings pages.

For the latest guidance to follow during the COVID-19 pandemic please visit the UK Government's coronavirus advice page. Those living in Scotland, Wales and Northern Ireland can access country-specific advice.





*based on digitised data held in the official Met Office climate archive

Date Created
July 2020

EUMETSAT selects Phil Evans as its new Director General

Description

We are very pleased to share the news that former Met Office Operations Director, Phil Evans, has been appointed as the new Director General of EUMETSAT.

EUMETSAT (European Organisation for the Exploitation of Meteorological Satellites) is an intergovernmental organisation dedicated to the provision of satellite observations in support of weather, climate and ocean science. Established in 1986, and with 30 European Member States, EUMETSAT satellites provides critical data for Met Office services.

The role of Director General is an important international leadership responsibility, and a great result for Phil, for the Met Office, and for the UK. Phil spent most of his career to date working at the Met Office, most recently as Chief Operations Officer until earlier this year. In that role, he served as the Head of Delegation for EUMETSAT Council. He is moving from his current role as Director of Programmes at Institute of Physics.

Penny Endersby, Met Office Chief Executive said “I am delighted to see Phil’s talents and knowledge being used to head up a European organisation which is so key to the success of international weather and climate prediction, and at a time when there is an exciting programme of satellite launches due.”

Met Office is a sophisticated user of satellite data in our weather forecasting:

- Satellite data are responsible for ~75% of the observations we feed into our global weather models.
- In addition, satellite imagery products and movie loops allow forecasters to track the development and progress of weather systems, so that they can add value to the forecast.
- Satellite observations can also be compared to past forecasts to verify their accuracy and help us improve our models and accuracy.

The stability and longevity of weather satellite observations mean they are a key contributor to climate monitoring.

The Met Office has a long history at the forefront of exploiting the value from our satellites for benefit to the UK. Our membership of EUMETSAT is essential to safeguarding this vital source of data while sharing the cost among the 30 Member States. EUMETSAT funds the Met Office to lead the Satellite Application Facility on behalf of the EUMETSAT membership.

Find out more on our website

Phil will succeed the current Director General, Alain Ratier, who has led EUMETSAT since 2011. We look forward to working with him as EUMETSAT enters an exciting phase of new programme implementation. Amongst other priorities, EUMETSAT is about to enter an intense phase of launches, with 5 new generation satellite launches from 2020-2024. The first of these will be Jason-CS/Sentinel-6

in November 2020.

Phil will take up the role in early 2021.

Date Created
July 2020

Innovative space weather monitoring projects receive UKRI funding

Description

UK Research and Innovation (UKRI) has announced funding for five projects focused on improving the UK's capability to predict and mitigate the hazards of space weather. The projects will incorporate new research to further develop the space weather models used by the Met Office Space Weather Operations Centre.

The projects are part of the first phase of the Space Weather Instrumentation, Measurement, Modelling and Risk (SWIMMR) programme, a £20 million, four-year programme led by the Science and Technology Facilities Council (STFC) with the Natural Environment Research Council (NERC). The aim is to improve the UK's capabilities for space weather monitoring and prediction.

There will be an emphasis on space radiation, which can affect aircraft systems, changes in the upper atmosphere, affecting communications, satellite orbits and surges in the current of power grids and other ground-level systems. These are significant risks to the infrastructures we rely on in daily life and are recorded in the UK's National Risk Register.

The five projects are together worth close to £9 million and funded by NERC, which is part of UKRI. Improving the accuracy of predicting when and where space weather events take place should allow the Met Office to issue warnings and advice sooner, allowing operators more time to take necessary action, such as manoeuvring satellites and isolating parts of the power network to ensure the least amount of disruption possible.

Science Minister Amanda Solloway said; "Satellites are fundamental to our everyday lives, underpinning technologies we constantly rely on from mobile phones to GPS. Any disruptions caused by space weather can therefore have a profound impact on businesses and individuals.

"These fantastic projects that we are backing today will enhance the UK's ability to forecast space weather, enabling our excellent national weather service to defend the technologies we all depend on."

Met Office Space Weather Operation Centre

Simon Machin, Space Weather Programme Manager at the Met Office, said; “We are very excited by the prospect of working with the crème of UK science and academia on the SWIMMR projects. SWIMMR will deliver a step change in UK space weather monitoring, warning and prediction capability by supporting pull-through of cutting-edge science into operational services. This will enable the Met Office to provide a greater range of more accurate services driven by the needs of users and underpins the UK’s strategic aims to grow and exploit opportunities in the space domain.

“SWIMMR communicates a clear vision of cementing the UK as a world leader in space weather and our thanks go out to all partners and stakeholders for supporting this programme of work.”

Duncan Wingham, Executive Chair of the Natural Environment Research Council, said; “SWIMMR is great example of NERC working with the Science and Technology Facilities Council and other partners to support world-leading environmental research, and the funding
will maximise the impact and uptake of an essential forecasting service relied upon
by Government and businesses. These exciting projects will further our understanding and confirm the UK’s reputation as an international leader in this field.”

The SWIMMR funding programme forms part of the Strategic Priorities Fund, delivered by the UKRI to drive an increase in high quality multi- and interdisciplinary research and innovation.

The funded projects are:

SWIMMR Theme	Project Title	Lead organisation	Partners

N1 Satellite risk forecasts	Satellite Radiation Risk Forecasts (Sat-Risk)	NERC British Antarctic Survey	University of Sheffield University College London University of Reading Imperial College London
N2 Aviation risk forecasts	SWIMMR Aviation Risk Modelling (SWARM)	University of Surrey	NERC British Geological Survey University College London University of Central Lancashire
N3 GNSS and HF aviation forecasts	Space Weather Instrumentation, Measurement, Modelling and Risk: Ionosphere (SWIMMR-I)	University of Birmingham	University of Bath University of Leicester Lancaster University University of Leeds
N4 Ground effects forecasts	SWIMMR Activities in Ground Effects (SAGE)	NERC British Geological Survey	NERC British Antarctic Survey University College London Imperial College London
N5 Satellite drag forecasts	Space Weather Instrumentation, Measurement, Modelling and Risk: Thermosphere (SWIMMR-T)	University of Birmingham	University of Southampton NERC British Antarctic Survey Lancaster University

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Helping to forecast water demand during Covid-19

Description

Lockdown during the Covid-19 pandemic has brought many changes and challenges to life in the UK. Government guidance aimed to contain and reduce virus transmission has reshaped our day-to-day lives, from how much electricity we use, to the way we consume water.

Over the last few months, teams at the Met Office have been working with water companies to help identify the changes and trends in water use brought about during lockdown.

Before and after lockdown

Our teams compared water use before lockdown (February to early March) and at the beginning of lockdown (late March to early April). As can be seen in Figure 1 below, most water companies have seen an increase in average water consumption during lockdown, with companies covering predominantly suburban areas (G and H) seeing the most noticeable increase, whereas companies operating in city areas see a reduction in water use (A). The data also showed differences between weekday and weekend water consumption largely disappeared.

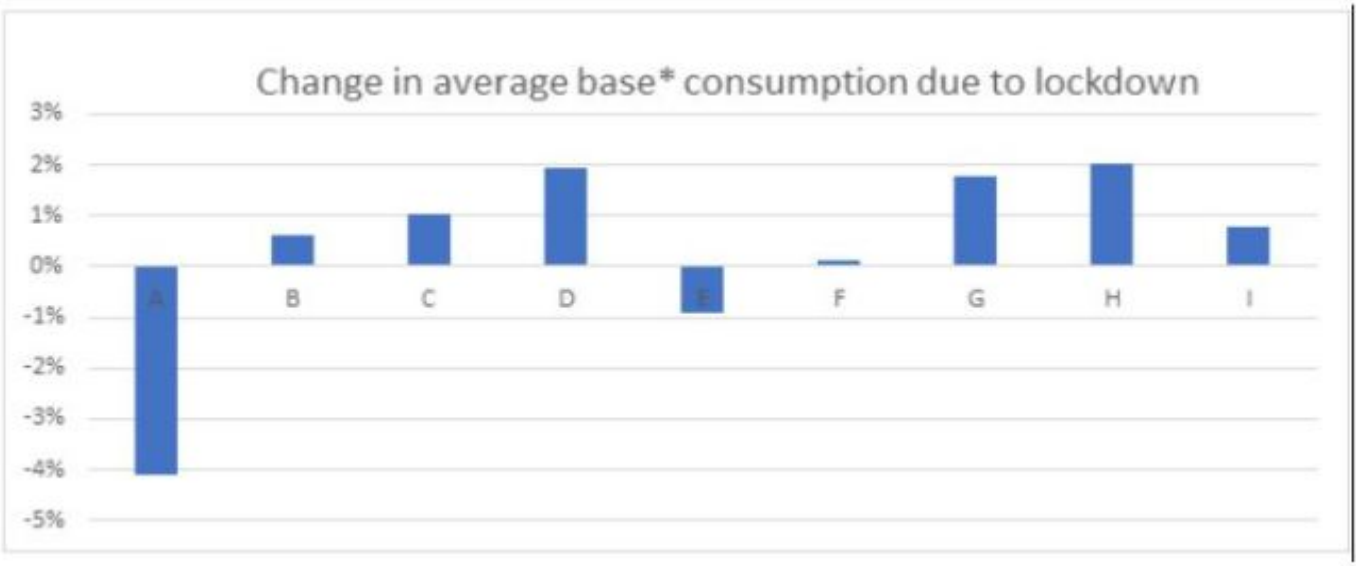

Figure 1) Percentage change in daily average base water consumption for ten water companies in early lockdown (late March-early April) compared to before lockdown (February-early March)

Lockdown during March and May coincided with a prolonged spell of sunny, warm and very dry weather , which introduced a 'fine spring weekend' effect to every day. The data suggests water use during this period is more sensitive to weather compared to pre-lockdown, with weather the main driver of day-to-day variations. For example, an increase in temperature appears to cause a higher rise in water demand than it would pre-lockdown. Figure 2 below shows an inexorable rise in water use to around 30% above base usage by late May, similar to the peak levels seen during the hot summer of July 2018

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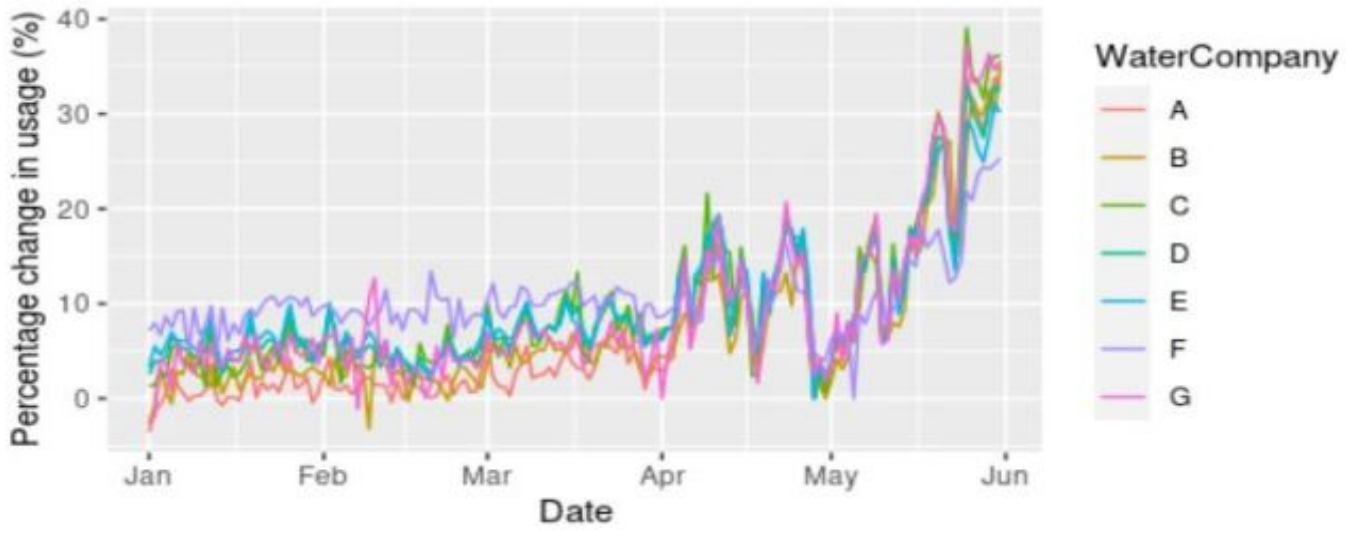

Figure 2) Percentage change in daily water consumption from average during lockdown.

"Lots of us are spending more time at home and along with warm weather we've seen customers using water differently", said David Hinton, Chief Executive at South East Water. *"Increased demand for tap water in our area is more akin to patterns we see in an exceptionally hot summer. More water is being used on DIY projects and gardening which is contributing to the additional 25% of water we're treating and pumping through our water distribution system."*

Working together to help keep taps flowing

Water demand models do not currently take into account these new water use patterns observed during lockdown. This has created new operational challenges for water companies, who despite having sufficient water supply in their reservoirs, are unable to treat and pump water fast enough to meet the unexpectedly high demand at peak times.

"By working together with water companies and sharing experiences, we can more accurately analyse the effect of lockdown on water use", said Nick Law, Senior Account Manager at the Met Office. *"From this the Met Office has produced a 'COVID' sensitive model that our colleagues in the water companies involved in this research can use to adjust their demand planning and better anticipate water usage as this new way of life continues."*

What can be done to better prepare for the future?

This year's summer months may bring particular challenges to water companies, as normal population movements during summer holidays are impacted by Covid-19 restrictions. Water companies that normally experience a noticeable drop in water use during holidays could experience an increase in water demand, due to a combination of lockdown and spells of warm summer weather.

"*The challenge now is to understand how peak Summer demand levels can be forecast and managed, to ensure supplies can be maintained" said Ian Savage, Strategic Control Manager at Thames Water.*

Based on modelling during lockdown so far, the Met Office can perform scenario planning for an extended period of lockdown for different weather types in July and August. This will allow the water industry to better anticipate water demand during periods of lockdown restrictions and plan for different weather scenarios, as this new way of life continues.

Want to find out more?

If you're interested in learning more about how we're helping the water industry forecast and manage water demand, check out our recent article published in Utility Week.

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